

The Command Pattern



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Overview



Classification: Behavioral

Encapsulate a request as an object

Parameterize objects

Different signatures

Queues and log operations

Undoable operations and macros

Also known as

Action Pattern

Transaction Pattern



Demo



Command line order processing program

Three operations:

- CreateOrder
- UpdateQuantity
- ShipOrder

Parse the command line arguments

Execute the command

Notify user and log the results



Problems Discovered

Violates Single Responsibility Principle

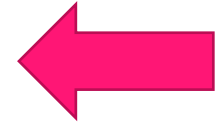
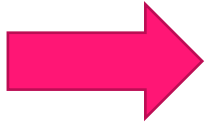
Violates Open/Closed Principle

Violates Dependency Inversion Principle

Long list of `if/elif` clauses



Command Pattern Structure









Encapsulate the commands

Information is hidden

Open/Closed principle



Demo



Reimplement the order processing system

Use Command Pattern

Rebuild the main program to use it



Demo



New application

Write MenuAction class

Support multi-level undo

Use Command Pattern



Summary



Encapsulate behavior

Separate command logic from the client

Command line programs

Add additional capabilities

- Validation
- Undo

Build menus